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09/774,941	01/31/2001	Robert K. Tendler	TT-118	6177

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02/23/2005

Robert K. Tendler  
65 Atlantic Avenue  
Boston, MA 02110

EXAMINER

AMINZAY, SHAIMA Q

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/774,941

Applicant(s)

TENDLER, ROBERT K.

Examiner

Shaima Q. Aminzay

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## ***DETAILED ACTION***

### ***Response to Amendment***

The following office action is in response to Amendment, filed on October 27, 2004.

The independent claims 1 and 15 are amended.

Claims 1-20 are pending

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action

(a ) Patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

1. Claims 1, 5, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267).

Regarding claim 1, Kabler teaches of a method of minimizing interference from wireless handset components which interferes with the receipt of GPS signals by a GPS receiver located at the handset in which the wireless phone has a motherboard, comprising the steps of: spacing the GPS receiver from the

phone motherboard (Figures 3 and 4 and column 4, lines 1 – 20).

Kabler does not specifically teach of providing separate shielding between the GPS receiver and the motherboard that lies only to one side of the GPS receiver and acts additionally to any GPS shielding. However, Kabler teaches the motherboard and the separation of the GPS and Cellular phone antennas (see for example, column 4, lines 1-20).

In a related art dealing with a GPS apparatus, Dalal teaches of providing separate shielding between the GPS receiver and the motherboard that lies only to one side of the GPS receiver and acts additionally to any GPS shielding (see for example, column 2, lines 66-67 continued to column 3, lines 1-13, lines 22-49, column 4, lines 46-56, lines 66-67 continued to column 5, lines 1-15, the Dalal uses an example of two boards to describe the shielding of a GPS and another board (mother board), and uses the “well-known and respected method of reducing radiation from a device (particularly an RF device)” called “Faraday shield” as the applicant (see for example the applicant’s specification (abstract, paragraph [0012], lines 1-5).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler’s mobile, Dalal’s shielding, for the purposes of confining and shielding from RF leakage and reducing electronic radiation as taught by Dalal.

Regarding claim 5, Kabler in view of Dalal, teach all the claimed limitations as

recited in claim 1. Dalal further teaches of wherein the step of providing separate shielding included the step of providing a physical barrier between the GPS receiver and the motherboard, the barrier having an electrically conductive coating thereon (see for example, column 2, lines 66-67 continued to column 3, lines 1-13, lines 22-49, column 4, lines 46-56, lines 66-67 continued to column 5, lines 1-15).

Regarding claim 15, Kabler teaches of a system for providing a GPS receiver in a wireless handset such that interference between the components of the handset and the GPS receiver is minimized to a sufficient extent to permit robust receipt of signals by the GPS receiver from GPS satellites (Figures 3 and 4 and column 4, lines 1 – 20), comprising: a wireless handset housing; a phone motherboard located within said housing (Figures 3 and 4 and column 4, lines 1 – 20); a GPS receiver spaced from one side of said phone motherboard (Figures 3 and 4 and column 4, lines 1 – 20).

Kabler does not specifically teach of shielding to one side of the GPS receiver interposed between said GPS receiver and said motherboard or a shielded GPS receiver.

In a related art dealing with a GPS apparatus, Dalal teaches of shielding to one side of the GPS receiver interposed between said GPS receiver and said motherboard or a shielded GPS receiver (see for example, column 2, lines 66-67 continued to column 3, lines 1-13, lines 22-49, column 4, lines 46-56, lines 66-67

continued to column 5, lines 1-15, the Dalal uses an example of two boards to describe the shielding to one side of the GPS receiver and another board (mother board), and uses the "well-known and respected method of reducing radiation from a device (particularly an RF device)" called "Faraday shield" as the applicant (see for example the applicant's specification (abstract, paragraph [0012], lines 1-5).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler's mobile, Dalal's shielding, for the purposes of confining and shielding from RF leakage and reducing electronic radiation as taught by Dalal.

2. Claims 2, 3, 7, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267) as applied to claims 1 and 15 above, and further in view of Kalis (Kalis, US Patent No. 6,215,671).

Regarding claims 2, Kabler in view of Dalal teach all the claimed limitations as recited in claim 1. Kabler further teaches of wherein the motherboard has ground plane (column 4, lines 1 – 20; note the concept is inherent to all boards in general as if current is to flow, a ground must be present).

Kabler does not specifically teach of including the step of electrically

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connecting the shielding to the ground plane of the motherboard (though it should be noted that Kabler teaches of operatively combining all boards in column 4, lines 1 – 5).

In a related art dealing with connecting circuit boards, Kalis teaches of including the step of electrically connecting the shielding to the ground plane of the motherboard (Figure 4, starting column 1, line 66 and ending column 2, line 2 and column 3, lines 26 – 49; note that Dalal's shield is connected to ground).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler's mobile and Dalal's GPS shielding, Kalis' board connectivity methods to create electrical connections (and thus a common ground), for the purposes of allowing boards to positioned to accommodate casings while still being electrically connected and thus functional, as taught by Kalis.

Regarding claim 3, Kabler in view of Dalal and Kalis, teach all the claimed limitations as recited in claim 2. Dalal and Kalis further teach of including the step of mechanically connecting the shielding to the ground plane of the motherboard (Dalal, see for example, column 3, lines 1-13, lines 22-49, column 4, lines 46-56, lines 66-67 continued to column 5, lines 1-15, Dalal uses an example of two boards to describe the shielding of a GPS and another board (mother board), and Kalis: column 3, lines 26 – 50 and Figure 4; note that as the boards are electrically connected, the ground plane is now functionally common).

Regarding claim 7, Kabler in view of Dalal and Kalis, teach all the claimed limitations as recited in claim 2. Dalal and Kalis further teach of wherein the GPS receiver has a system ground and further including the step of electrically connecting the shielding to the system ground of the GPS receiver (Dalal, see for example, column 3, lines 1-13, lines 22-49, column 4, lines 46-56, lines 66-67 continued to column 5, lines 1-15, and Kalis: column 3, lines 26 – 50 and Figure 4; note that as the boards are electrically connected, the ground plane is now functionally common).

Regarding claim 19, Kabler in view of Dalal teach all the claimed limitations as recited in claim 15. Kabler further teaches of wherein the motherboard has ground plane (column 4, lines 1 – 20; note the concept is inherent to all boards in general as if current is to flow, a ground must be present).

Kabler does not specifically teach of wherein said shielding is electrically connected to said ground layer (though it should be noted that Kabler teaches of operatively combining all boards in column 4, lines 1 – 5 and Dalal teaches of attachment to the ground plane starting column 2, line 66-67 continued to column 3, lines 1-13).

In a related art dealing with connecting circuit boards, Kalis teaches of wherein said shielding is electrically connected to said ground layer (Figure 4, starting column 1, line 66 and ending column 2, line 2 and column 3, lines 26 –



49; note that Dalal's shield is connected to ground).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler's mobile and Dalal's GPS shielding, Kalis' board connectivity methods to create electrical connections (and thus a common ground), for the purposes of allowing boards to positioned to accommodate casings while still being electrically connected and thus functional, as taught by Kalis.

Regarding claim 20, Kabler in view of Dalal teach all the claimed limitations as recited in claim 15. Kabler in view of Dalal do not specifically teach of wherein said GPS receiver has a system ground and wherein said shielding is electrically connected to said system ground (though it should be noted that Kabler teaches of operatively combining all boards in column 4, lines 1 – 5 and Dalal teaches of attachment to the ground plane starting column 1, line 63 and ending column 2, line 7).

In a related art dealing with connecting circuit boards, Kalis teaches of wherein said GPS receiver has a system ground and wherein said shielding is electrically connected to said system ground (Figure 4, starting column 1, line 66 and ending column 2, line 2 and column 3, lines 26 – 49; note that Dalal's shield is connected to ground).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler's mobile and Dalal's GPS shielding, Kalis' board

connectivity methods to create electrical connections (and thus a common ground), for the purposes of allowing boards to positioned to accommodate casings while still being electrically connected and thus functional, as taught by Kalis.

3. Claims 4, 6, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267) as applied to claims 1, 5, and 15 above, and further in view of Perkins et al. (Perkins, US Patent No. 6,490,173).

Regarding claims 4, 6, and 18, Kabler in view of Dalal teach all the claimed limitations as recited in claims 1, 5, and 15. Kabler in view of Dalal do not specifically teach of wherein the shielding includes zinc.

In a related art dealing with shielding, Perkins teaches of wherein the shielding includes zinc (Figure 1 and column 3, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler and Dalal's mobile with shield, Perkins' zinc shield, for the purposes of providing a thermally conductive material that reduces EMI (by grounding interference), as taught by Perkins.

4. Claims 8, 9, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515 in view of Dalal (Dalal et al, US Patent No. 6,618,267) as applied to claims 1 and 15 above, and further in view of Tiburtius et al. (Tiburtius, US Patent No. 6,323,418).

Regarding claim 8, Kabler in view of Dalal teach all the claimed limitations as recited in claim 1. Kabler further teaches of wherein the handset has housing and wherein the housing includes a pod for carrying the GPS receiver (Figure 4 and column 4, lines 1 – 4).

Kabler in view of Dalal do not specifically teach of further including the steps of providing the walls of the pod with shielding.

In a related art dealing with shielding using housing, Tiburtius teaches of providing the walls of the pod with shielding (Figure 1 and column 3, lines 48 – 58).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler and Dalal's mobile, Tiburtius' shielding, for the purposes of protecting circuitry from EMI from mobile transmitters, as taught by Tiburtius.

Regarding claim 9, Kabler in view of Dalal and Tiburtius teach all the claimed limitations as recited in claim 8. Tiburtius further teaches of wherein the pod-carried shielding forms a Faraday cage about the GPS receiver (column 4, lines

1 – 8).

Regarding claim 16, Kabler in view of Dalal teach all the claimed limitations as recited in claim 15. Kabler further teaches of wherein said housing includes a bulkhead between said phone motherboard and said GPS receiver (Figures 3 and 4 and column 3, lines 9 –21; note that by definition from Merriam and Webster's Collegiate Dictionary, 10<sup>th</sup> Edition, a bulkhead is defined as "an upright partition separating compartments).

Kabler in view of Dalal specifically do not specifically teach of wherein said bulkhead has said shielding affixed thereto.

In a related art dealing with shielding using housing, Tiburtius teaches of wherein said bulkhead has said shielding affixed thereto (Figure 1 and column 3, lines 48 – 58).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler and Dalal's mobile, Tiburtius' shielding, for the purposes of protecting power, display, audio, and other circuitry from EMI from mobile transmitters, as taught by Tiburtius.

Regarding claim 17, Kabler in view of Dalal and Tiburtius, teach all the claimed limitations as recited in claim 16. Tiburtius further teaches of wherein said shielding is in the form of a conductive layer on said bulkhead (Figure 1 and column 3, lines 48 – 58).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267), and further in view of McConnell (McConnell et al, US Patent No. 6,593,897).

Regarding claim 10, Kabler in view of Dalal teach all the claimed limitations as recited in claim 1. Kabler further teaches of wherein the wireless handset carries a patch type GPS antenna with a ground plane and a GPS output connector (see for example, column 4, lines 21 –24). Kabler does not specifically teach shielding around the connector, however, Kabler teaches the connection of the GPS and other electronic components, and in such an electronic design, the connector has to be shielded to provide better signal transfer (see for example, column 4, lines 21 – 24)).

In a related art dealing with a GPS apparatus, McConnell teaches of shielding around the output connector (Figure 1 and column 3, lines 8 – 14).

It would have been obvious to one skilled in the art at the time of invention to have included McConnell's connector shielding into Kabler's mobile and Dalal's GPS shielding, for the purposes of confining and shielding from RF leakage, as taught by McConnell.

6. Claim 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al., US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267), and in view of McConnell (McConnell et al, US Patent No. 6,593,897) as applied to claim 10 above, and further in view of Hill (Hill, US Patent No. 6,404,394).

Regarding claim 11, Kabler in view of Dalal, and in view of McConnell teach all the claimed limitations as recited in claim 10. Kabler in view of Dalal and in view of McConnell do not specifically teach providing heavily shielded coaxial cable between the output connector and the GPS receiver.

In a related art teaching of GPS and dual polarized antennas, Hill teaches of further including providing heavily shielded coaxial cable between the output connector and the GPS receiver (Figures 6 and 7 and starting column 3, line 64 and ending column 4, line 7).

It would have been obvious to one skilled in the art at the time of invention to have included into Kabler, Dalal, and McConnell's mobile, Hill's shielding co-ax, for the purposes of connecting the receiver to the antenna without adding EMI, as taught by Hill.

Regarding claim 12, Kabler in view of Dalal, and in view of McConnell, and

further in view of Hill, teach all the claimed limitations as recited in claim 11. Hill further teaches of wherein the heavy shielding is provided by semi-rigid coaxial cable (Figures 6 and 7 and starting column 3, line 64 and ending column 4, line 7).

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabler (Kabler et al. US Patent No. 6,128,515) in view of Dalal (Dalal et al, US Patent No. 6,618,267), and in view of McConnell (McConnell et al, US Patent No. 6,593,897) as applied to claim 10 above, and further in view of McGrath et al. (McGrath, US Patent No. 6,272,349).

Regarding claim 13, Kabler in view of Dalal, and in view McConnell teach all the claimed limitations as recited in claim 10. Kabler in view of Dalal, and in view of McConnell do not specifically teach of wherein the GPS antenna includes a filter coupled to the output connection to filter out components to either side of the GPS antenna frequency.

In a related art dealing with GPS receivers, McGrath teaches of wherein the GPS antenna includes a filter coupled to the output connection to filter out components to either side of the GPS antenna frequency (column 3, lines 1 – 16).

It would have been obvious to one skilled in the art at the time of invention to

have included into Kabler, Dalal, and McConnell's mobile, the McGrath's filter, for the purposes of better reception (as less noise would be present in the bandwidth), as taught by McGrath.

Regarding claim 14, Kabler in view of Dalal, McConnell, McGrath, and McGrath, teach all the claimed limitations as recited in claim 13. McConnell further teaches of wherein the GPS antenna includes a low noise amplifier for amplifying the signal from the GPS antenna to compensate for losses due to the insertion of the filter (Figures 7 and 8 and column 4, lines 28 – 41).

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-20 have been considered but are **moot** in view of the new ground(s) of rejection.



### ***Conclusion***

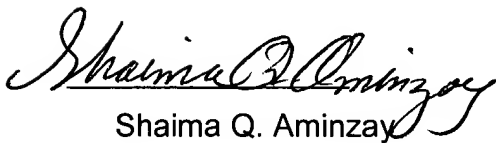
9. The prior art made of record considered pertinent to applicant's disclosure, see PTO-892 form.
  
10. **HIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action

### Inquiry

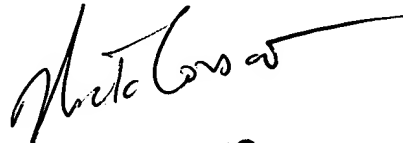
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shaima Q. Aminzay

(Examiner)



**NICK CORSARO  
PRIMARY EXAMINER**

Nay Maung

(SPE)

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December 18, 2004